

**1. IDENTIFICATION**

Product name: **CropSmart™ Lambda-Cy**  
 EPA Registration Number: 83772-3-85945

Chemical name of active ingredient(s): Lambda Cyhalothrin: [1α(S\*),3α(Z)]-(±)-cyano-(3-phenoxyphenyl)methyl-3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate

Manufacturer: CropSmart, LLC  
 PO Box 342  
 Morrisville, NC 27560  
 Phone: 1-866-459-7467

For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at: 1-800-424-9300.

For medical emergencies and health and safety inquiries, contact: 1-800-222-1222

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

COMMON NAME	%	OSHA PEL	ACGIH TLV	NTP/IARC/OSHA Carcinogen
Lambda-cyhalothrin (CAS# 91465-08-6)	12.7	NE	NE	NA
Aromatic solvent (CAS# 64742-94-5)	78.4	NE	NE	NA
Contains Naphthalene (CAS#: 91-20-3)	7.84	50 mg/m <sup>3</sup> (TWA)	52 mg/m <sup>3</sup> (TWA)	NTP — 2** IARC — 2B***

NE = None established.

NA = Not applicable.

\*\* Substances, which may reasonably be anticipated to be carcinogens. \*\*\* Substance is possibly carcinogenic to humans.

**3. HAZARDS IDENTIFICATIONS**

**EMERGENCY OVERVIEW WARNING.** May be fatal if swallowed. Causes substantial but temporary eye injury. Harmful if absorbed through skin or inhaled. Avoid breathing vapor or spray mist. Do not get in eyes, on skin, or on clothing. Wear appropriate protective clothing and eyewear as specified in Section 8 – Exposure Controls/Personal Protection. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Skin exposure may also result in a sensation described as a tingling, itching, burning, or prickly feeling. Onset may occur immediately to 4 hours after exposure and may last 2-30 hours, without damage. Wash exposed areas once with soap and water. Relief from the skin sensation may be obtained by applying an oil-based cream.

**PHYSICAL PROPERTIES**

Appearance: Lightly yellow transparent liquid .

Odor: Aromatic of solvent.

**SYMPTOMS OF ACUTE EXPOSURE**

May cause eye and skin irritation. Harmful if swallowed. Allergic skin reactions are possible. Exposure to high vapor levels may cause headache, dizziness, numbness, nausea, incoordination, or other central nervous system effects. Skin exposure may also result in a sensation described as a tingling, itching, burning, or prickly feeling. Onset may occur immediately to 4 hours after exposure and may last 2-30 hours, without damage. Wash exposed areas once with soap and water. Relief from the skin sensation may be obtained by applying an oil-based cream.

### HAZARDOUS PRODUCTS OF COMBUSTION

Product can decompose at high temperatures forming toxic gases.

## 4. FIRST AID MEASURES

FIRST AID	
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Do not give <b>any</b> liquid to the person.</li><li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li><li>• Do not give anything by mouth to an unconscious person.</li></ul>
<b>IF IN EYES:</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li><li>• Call a poison control center or doctor for further treatment advice.</li></ul>
Have the product container or label with you when calling a poison control center or doctor or going for treatment. For Medical emergencies call 24 hours a day at 1-800-222-1222.	
<b>NOTE TO PHYSICIAN:</b> Contains Petroleum Distillate. Vomiting may cause aspiration pneumonia.	

## 5. FIRE FIGHTING MEASURES

**FLASH POINT:** 62° C (144° F)

### FLAMMABLE LIMITS

LFL: Not applicable

UFL: Not applicable

**AUTOIGNITION TEMPERATURE:** Not available **FLAMMABILITY:** Not applicable

**EXTINGUISHING MEDIA:** Dry chemical, foam or CO2 extinguishing media.

### UNUSUAL FIRE, EXPLOSION, AND REACTIVITY HAZARDS

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

### HAZARDOUS DECOMPOSITION PRODUCTS

Product can decompose at high temperatures forming toxic gases.

### FIRE-FIGHTING PROCEDURES

Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area and equipment until decontaminated. Water runoff can cause environmental damage.

## 6. ACCIDENTAL RELEASE MEASURES

**ACTION TO TAKE FOR SPILLS/LEAKS:** Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outline in Section 8 — Exposure Control/Personal Protection. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g., commercial products such as Tide®, Joy®, Spic and Span®). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

## 7. HANDLING AND STORAGE

**HANDLING:** Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash hands thoroughly with soap and water after handling this product.

**STORAGE:** Do not use or store near heat or open flame. Store in original containers only. Keep container closed when not in use. Do not store near food or feed. In case of spill or leak on floor or paved surfaces, soak up with sand, earth, or synthetic absorbent. Remove to chemical waste area. Store material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages, or tobacco products in the storage area.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURER, FORMULATION, PACKAGING AND USE OF THIS PRODUCT:

Ingestion::	Prevent eating, drinking or tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.
Eye contact::	Where eye contact is likely, use chemical splash goggles.
Skin contact:	Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear. Stringent housekeeping measures are necessary to prevent translocation of the material from contaminated work surfaces to uncontaminated surfaces (railings, doors, etc.). Unprotected contact with such translocated material can result in paresthesia effects (see Section 11 — Toxicological Information).
Inhalation:	A combination particulate/organic vapor respirator may be necessary until effective engineering controls are installed to comply with occupational exposure limits. Use a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with an R, P, or HE pre-filter. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

### APPLICATORS AND OTHER HANDLERS MUST WEAR:

- Coveralls over long sleeved shirt and long pants
- Chemical resistant gloves, such as barrier laminate, nitrile rubber, neoprene rubber, or Viton = 14 mils
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

### USER SAFETY RECOMMENDATIONS

#### User should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**EXPOSURE GUIDELINES:** Refer to Section 2.

**ENGINEERING CONTROLS:** Refer to product label.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE:** Lightly yellow transparent liquid

**ODOR:** Aromatic of solvent

**FLASH POINT:** 62° C (144° F)

**pH:** 6.5-7.5

**DENSITY:** 0.925-0.935 kg/L

**SOLUBILITY IN WATER (LAMBDA-CYHALTHRIN TECHNICAL):** 0.004 mg/l

**VAPOR PRESSURE (LAMBDA-CYHALTHRIN TECHNICAL):**  $1.5 \times 10^{-9}$  mmHg @ 68° F (20° C)

## 10. STABILITY AND REACTIVITY

**STABILITY:** This product is stable under normal use and storage.

**CONDITIONS TO AVOID:** Do not use or store near heat or open flame.

**MATERIALS TO AVOID:** None known.

**HAZARDOUS POLYMERIZATION:** Not known to occur.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Can decompose at high temperatures forming toxic gases.

## 11. TOXICOLOGICAL INFORMATION

### ACUTE TOXICITY/IRRITATION STUDIES

Acute Oral LD <sub>50</sub> (Rat):	98.11 mg/kg
Acute Dermal LD <sub>50</sub> (Rat):	>2,000 mg/kg
Acute Inhalation LC <sub>50</sub> (Rat):	1.83 mg/L air (4-hours)
Eye Irrigation (Rabbit):	Mildly irritating
Dermal Irritation (Rabbit):	Slightly irritating
Dermal Sensitization:	Positive

### REPRODUCTIVE/DEVELOPMENTAL EFFECTS:

Lambda-cyhalothrin technical: Not a developmental or reproductive toxicant.

### CHRONIC/SUBCHRONIC TOXICITY STUDIES:

Lambda-cyhalothrin technical: Reversible paresthesia (abnormal skin sensation). Reversible clinical signs of neurotoxicity in mammals.

### CARCINOGENICITY:

Lambda-cyhalothrin technical: No treatment-related tumors in rats or mice.

**OTHER TOXICITY INFORMATION:** In humans, contact with exposed skin may result in temporary itching, tingling, burning or numbness, called paresthesia. The effect may result from splash, aerosol, or hot vapor contact, or transfer to the face from contaminated gloves and hands. The symptoms normally disappear within 24 hours. Face and genital areas are especially susceptible to this effect. Paresthesia involving the face is also known as "subjective facial sensation" or SFS.

### TOXICITY OF OTHER COMPONENTS:

Naphthalene: Exposure to naphthalene can cause cataracts, liver damage, kidney failure, respiratory failure, hematuria, anemia, damage to red blood cells, leukocytosis, or coma.

### TARGET ORGANS:

Lambda-cyhalothrin technical:	Liver, nervous system
Naphthalene:	Eye, liver, kidney, respiratory tract, blood, CNS

## 12. ECOLOGICAL INFORMATION

### SUMMARY OF EFFECTS:

This pesticide is extremely toxic to fish and aquatic organisms and toxic to wildlife. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment wash water.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

### ECO-ACUTE TOXICITY:

(Lambda-cyhalothrin technical)

Bees LC50/EC50:	0.038 µg/bee
Invertebrates (water flea) LC50/EC50:	0.00036 ppm
Fish (trout) LC50/EC50:	0.00024 ppm
Fish (bluegill) LC50/EC50:	0.00021 ppm
Bird (Bobwhite quail) 8-day dietary LC50/EC50:	>5300 ppm
Bird (Mallard duck) 8-day dietary LC50/EC50:	>3948 ppm

### ENVIRONMENTAL FATE:

Lambda-cyhalothrin technical: Not persistent in soil or water. Immobile in soil. Sinks in water after 24 hours.

## 13. DISPOSAL CONSIDERATIONS

**PESTICIDE DISPOSAL:** Do not contaminate water, food, or feed by storage and disposal. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticides, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your state pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL:** Dispose of product containers, waste containers, and residues according to label instructions and local, state, and federal health and environmental regulations.

## 14. TRANSPORT INFORMATION

**DOT CLASSIFICATION:** UN 3352, Pyrethroid pesticides, liquid, toxic, 6.1, PGIII

**NOTE:** Combination packages with inner packagings less than 4 liters (1.057 gallons) may be reclassified as a Consumer Commodity (ORM -D). These packages cannot be shipped by air freight.

**NOTE:** Consumer Commodity (ORM -D) classification is for domestic surface/ground shipments only (4x1-gallon and 4x1-quart packages). Air shipments remain regulated.

### INTERNATIONAL TRANSPORTATION:

**IMO (vessel):** UN 3352, Pyrethroid pesticides, liquid, toxic (Lambda-cyhalothrin), 6.1, PGIII, Marine Pollutant

**IATA (air):** UN 3352, Pyrethroid pesticides, liquid, toxic (Lambda-cyhalothrin), 6.1, PGIII

**15. REGULATORY INFORMATION**

**SARA TITLE III CLASSIFICATION:**

Section 302: Not applicable  
Section 311/312: Acute health hazard (immediate)  
Chronic health hazard (delayed)  
Section 313: Naphthalene (7.84%) CAS: 91-20-3

**CA PROPOSITION 65:** Naphthalene

**CERCLA RQ:** 165 gallons product (100 lbs Naphthalene)

**RCRA CLASSIFICATION:** Not applicable

**TSCA STATUS:** Not applicable

**16. OTHER INFORMATION**

**NFPA HAZARD RATINGS**

<b>HEALTH:</b>	2	0 MINIMAL
<b>FLAMMABILITY:</b>	1	1 SLIGHT
<b>REACTIVITY:</b>	0	2 MODERATE
		3 HIGH
		4 SEVERE

**MSDS Date:** April 15, 2009.

The information herein is given in good faith, but no warrant, express or implied, is made. Consult CropSmart, LLC for further information.